

surfaces, said first sidewall having a first generally planar surface, a second generally planar surface, and a concave surface therebetween.

Sub D1
C2
63. (Amended) A spinal fusion implant, comprising:
an elongate bone portion defining a longitudinal axis and having a generally rectangular cross-section transverse to the longitudinal axis, said bone portion comprising:
a first bone engaging surface;
a second bone engaging surface; and
a first sidewall extending between said first and second bone engaging surfaces, wherein the first sidewall comprises a concave surface.

Sub D1
C3
74. (Amended) The implant of claim 63 wherein the first sidewall comprises a first substantially planar surface adjacent the concave surface.

Sub D1
C4
78. (Amended) The implant of claim 76 wherein the first endwall comprises a recess extending to the concave surface.

79. (Amended) The implant of claim 76 wherein the first end comprises a bore extending substantially parallel to the longitudinal axis.

Sub D1
C5
82. (Amended) A spinal fusion implant, comprising:
an elongate bone portion defining a longitudinal axis and comprising:
a first sidewall comprising a concave surface;
a second, opposite sidewall comprising a convex surface generally parallel to the concave surface;
a first bone engaging surface positioned between the first and second sidewalls; and
a second bone engaging surface opposite the first bone engaging surface, wherein at least one of the first or second bone engaging surfaces comprises ridges or teeth.

Sub 7
C. 6
84. (Amended) A system for spinal fusion of adjacent vertebrae, said system comprising a pair of spinal implants, said spinal implants comprising an elongate bone portion defining a longitudinal axis and having a generally rectangular cross-section transverse to the longitudinal axis; a first bone engaging surface; a second, opposite bone engaging surface; and a first sidewall extending between said first and second bone engaging surfaces, said first sidewall comprising a concave portion, said pair of implants are positioned in an intervertebral space whereby the concave portions define a chamber.

Please add the following new claims:

Sub 17 89. (New) The implant of claim 63 wherein the elongate bone portion has a generally rectangular cross-section in a plane including the longitudinal axis.

90. (New) The implant of claim 63 wherein the elongate bone portion has a generally crescent shaped cross-section in a plane including the longitudinal axis.

C7 91. (New) The implant of claim 90 wherein the crescent shaped cross-section terminates in a substantially straight edge adjacent the first end.

92. (New) The implant of claim 91 wherein the crescent shaped cross-section includes a concave edge disposed between a first substantially straight edge and a second substantially straight edge, said first and second straight edges extending generally parallel to the longitudinal axis.

93. (New) The implant of claim 92 wherein the first endwall comprises a recess extending to the concave surface.

93. (New) The implant of claim 90 wherein the crescent shaped cross-section terminates in a substantially straight edge adjacent the second end.

94. (New) An implant for implantation in a disc space between adjacent vertebrae, said implant formed of bone and comprising:

- a first end having a tool engaging recess and an opposite second end;
- a first bone engaging surface and an opposite second bone engaging surface;
- a first side wall disposed between the first bone engaging surface and the second bone engaging surface, said first side wall having a cavity disposed between the first end and the second end and extending from the first bone engaging surface to the second bone engaging surface; and
- a second side wall opposite the first side wall, wherein said implant has a generally rectangular cross-section parallel to the first end.

95. (New) The implant of claim 94 where in the first bone engaging surface and the second bone engaging surface are substantially parallel.

96. (New) The implant of claim 95 wherein the second side wall is comprises a substantially planar portion.

C 97. (New) The implant of claim 95 wherein the second side wall is comprises a curved portion.

98. (New) The implant of claim 95 wherein the first bone engaging surface and the second bone engaging surface includes ridges or teeth.

99. (New) The implant of claim 95 wherein the tool engaging recess comprises an opening to engage an implant holder.

100. (New) The implant of claim 95 wherein the first bone engaging surface and the second bone engaging surface are separated by a first height adjacent to the first end and by a second height adjacent to the second end, wherein said first height is less than the second height.

101. (New) The implant of claim 100 wherein the first bone engaging surface and the second bone engaging surface includes ridges or teeth.

102. (New) The implant of claim 100 wherein the tool engaging recess comprises a slot extending to the cavity.

103. (New) The implant of claim 100 wherein tool engaging recess comprises a slot extending along the second side wall for engaging an implant holder.

104. (New) The implant of claim 100 wherein the second side wall comprises a substantially planar portion.

c 7 105. (New) The implant of claim 100 wherein the second side wall comprises a curved portion.

CLEAN VERSION OF ENTIRE SET OF PENDING CLAIMS

1. (Amended) A spinal fusion implant, comprising:
a bone portion having an upper bone engaging surface, a lower bone engaging surface, a first sidewall and an opposite second sidewall extending between said upper and lower bone engaging surfaces, said first sidewall having a first generally planar surface, a second generally planar surface, and a concave surface therebetween.
2. The implant of claim 1, wherein said bone portion is formed from a donor bone segment defining at least a portion of a medullary canal and said concave surface defines a portion of said medullary canal.
3. The implant of claim 1, wherein said upper and lower bone engaging surfaces include a roughened surface.
4. The implant of claim 3, wherein said roughened surface includes grooves.
63. (Amended) A spinal fusion implant, comprising:
an elongate bone portion defining a longitudinal axis and having a generally rectangular cross-section transverse to the longitudinal axis, said bone portion comprising:
a first bone engaging surface;
a second bone engaging surface; and
a first sidewall extending between said first and second bone engaging surfaces, wherein the first sidewall comprises a concave surface.
64. The implant of claim 63 wherein the concave surface is arcuate.
65. The implant of claim 63, wherein said bone portion is formed from a donor bone segment having at least a portion of a medullary canal and the concave surface defines a portion derived from the medullary canal.

66. The implant of claim 63 comprising a second sidewall having a convex portion.
67. The implant of claim 63 comprising a second sidewall having a substantially planar portion.
68. The implant of claim 63 comprising a second sidewall positioned to lie substantially parallel to the first sidewall.
69. The implant of claim 63 wherein the first bone engaging surface is substantially crescent shaped.
70. The implant of claim 63, wherein at least one of the first and second bone engaging surfaces include ridges or teeth.
71. The implant of claim 63 wherein the first bone engaging surface and the second bone engaging surface are substantially planar.
72. The implant of claim 63 wherein the first bone engaging surface and the second bone engaging surface are separated by a first height adjacent to a first end and by a second height adjacent to an opposite, second end, wherein said first height is greater than the second height.
73. The implant of claim 63 wherein the first bone engaging surface and the second bone engaging surface are adapted to matingly conform to opposing endplates of adjacent vertebral bodies.
74. (Amended) The implant of claim 63 wherein the first sidewall comprises a first substantially planar surface adjacent the concave surface.

75. The implant of claim 63 wherein the first sidewall comprises a first substantially planar surface adjacent a first end and a second substantially planar surface adjacent a second end.

76. The implant of claim 63 comprising a first endwall positioned between the first and second bone engaging surfaces, wherein the first endwall is adapted to engage an implant holder.

77. The implant of claim 76 wherein the first endwall comprises a recess or a projection to engage an implant holder.

78. (Amended) The implant of claim 76 wherein the first endwall comprises a recess extending to the concave surface.

79. (Amended) The implant of claim 76 wherein the first end comprises a bore extending substantially parallel to the longitudinal axis.

80. The implant of claim 79 wherein the bore is threaded.

81. The implant of claim 76 wherein the recess defines a groove extending substantially parallel to the longitudinal axis.

82. (Amended) A spinal fusion implant, comprising:
an elongate bone portion defining a longitudinal axis and comprising:
a first sidewall comprising a concave surface;
a second, opposite sidewall comprising a convex surface generally parallel to the concave surface;
a first bone engaging surface positioned between the first and second sidewalls; and
a second bone engaging surface opposite the first bone engaging surface, wherein at least one of the first or second bone engaging surfaces comprises ridges or teeth.

83. The implant of claim 82 comprising a tool attachment end positioned between the first and second bone engaging surfaces, said tool attachment end comprising a recess extending substantially parallel to the longitudinal axis from the tool attachment end to the convex surface.

84. (Amended) A system for spinal fusion of adjacent vertebrae, said system comprising a pair of spinal implants, said spinal implants comprising an elongate bone portion defining a longitudinal axis and having a generally rectangular cross-section transverse to the longitudinal axis; a first bone engaging surface; a second, opposite bone engaging surface; and a first sidewall extending between said first and second bone engaging surfaces, said first sidewall comprising a concave portion, said pair of implants are positioned in an intervertebral space whereby the concave portions define a chamber.

85. The system of claim 84 wherein the chamber comprises an osteogenic material.

86. The system of claim 84 wherein the implants do not contact each other.

87. The system of claim 84 wherein the implants are positioned to lie at an angle oblique to each other.

88. The system of claim 84 wherein each of the implants comprise a tool attachment end positioned posteriorly in the intervertebral space.

89. (New) The implant of claim 63 wherein the elongate bone portion has a generally rectangular cross-section in a plane including the longitudinal axis.

90. (New) The implant of claim 63 wherein the elongate bone portion has a generally crescent shaped cross-section in a plane including the longitudinal axis.

91. (New) The implant of claim 90 wherein the crescent shaped cross-section terminates in a substantially straight edge adjacent the first end.

92. (New) The implant of claim 91 wherein the crescent shaped cross-section includes a concave edge disposed between a first substantially straight edge and a second substantially straight edge, said first and second straight edges extending generally parallel to the longitudinal axis.

93. (New) The implant of claim 92 wherein the first endwall comprises a recess extending to the concave surface.

93. (New) The implant of claim 90 wherein the crescent shaped cross-section terminates in a substantially straight edge adjacent the second end.

94. (New) An implant for implantation in a disc space between adjacent vertebrae, said implant formed of bone and comprising:

- a first end having a tool engaging recess and an opposite second end;
- a first bone engaging surface and an opposite second bone engaging surface;
- a first side wall disposed between the first bone engaging surface and the second bone engaging surface, said first side wall having a cavity disposed between the first end and the second end and extending from the first bone engaging surface to the second bone engaging surface; and

- a second side wall opposite the first side wall, wherein said implant has a generally rectangular cross-section parallel to the first end.

95. (New) The implant of claim 94 where in the first bone engaging surface and the second bone engaging surface are substantially parallel.

96. (New) The implant of claim 95 wherein the second side wall is comprises a substantially planar portion.

97. (New) The implant of claim 95 wherein the second side wall is comprises a curved portion.

98. (New) The implant of claim 95 wherein the first bone engaging surface and the second bone engaging surface includes ridges or teeth.

99. (New) The implant of claim 95 wherein the tool engaging recess comprises an opening to engage an implant holder.

100. (New) The implant of claim 95 wherein the first bone engaging surface and the second bone engaging surface are separated by a first height adjacent to the first end and by a second height adjacent to the second end, wherein said first height is less than the second height.

101. (New) The implant of claim 100 wherein the first bone engaging surface and the second bone engaging surface includes ridges or teeth.

102. (New) The implant of claim 100 wherein the tool engaging recess comprises a slot extending to the cavity.

103. (New) The implant of claim 100 wherein tool engaging recess comprises a slot extending along the second side wall for engaging an implant holder.

104. (New) The implant of claim 100 wherein the second side wall comprises a substantially planar portion.

105. (New) The implant of claim 100 wherein the second side wall comprises a curved portion.